

NWS FORM E-5 COMMERCE	U.S. DEPARTMENT OF NOAA, NATIONAL WEATHER	HSA OFFICE: San Juan, PR (SJU)
SERVICE		REPORT FOR (MONTH / YEAR): October, 2005
MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS		DATE: November 14, 2005
TO: NATIONAL WEATHER SERVICE HYDROMETEOROLOGICAL INFO CENTER, W/OS31 SSMC 2 – Room 13468 1325 EAST-WEST HIGHWAY SILVER SPRING, MD 20910-3283		SIGNATURE: Althea Austin-Smith
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (WSOM E-41).		

Summary: The month of October was recording setting for most of Puerto Rico. The bulk of the rainfall occurred between the 9th and the 13th of the month with the San Juan ASOS reporting a record 11.94 inches for the month of October. This was 6.88 inches greater than the normal of 5.06 inches. The reported amounts for the rest of the forecast area was also quite substantial with a report of 12.48 inches at the Truman Field in St. Thomas, USVI which was 6.91 inches greater than their normal of 5.57 inches.

The highlight of this summary will be the event that occurred between October 9th and 13th ... during
As early as Wednesday October 6th, the Hazardous Weather Outlook issued by the National Weath
The forecast even indicated that rainfall chances were to remain high for Tuesday October 11th and

The rainfall did continue and when the system finally moved away from Puerto Rico, the highest tota

Corresponding Rainfall totals > 10 ins for ... Oct. 9th – Oct. 13th (reports at 8am)					
DESCRIPTION	10/09	10/10	10/11	10/12	10/13
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B SLTILLO NR ADJNTS	1.84	0.68	8.64	5.45	2.67
PONCE 7N/R PORT TIBS	1.13	1.70	11.57	4.03	0.21
VILLALBA 3NE/BAR APE	1.99	1.99	7.35	4.35	0.17
LAGO GARZAS/ADJUNTAS	0.64	1.22	7.26	4.55	1.84
RIO INABON NR PONCE	1.10	2.59	7.76	3.82	0.19
ICACOS NR NAGUABO	1.19	1.67	7.70	3.02	1.80
PORTUGUES BLO DAM	3.06	1.39	7.41	2.95	0.25
QUEB GUABA/NAGUABO	1.47	1.68	7.26	2.67	1.47
RIO COAMO @ COAMO	1.03	2.54	6.65	3.56	0.35
MET STN AT RIO ICACO	1.45	1.72	6.68	2.59	1.66

BRIO SALIENTE/JYUYA	1.27	1.63	6.91	3.49	0.20
RIO CUYON-COAMO-ALRT	0.00	1.18	8.23	2.99	0.79
VIVI/ADJUNTAS 4E	1.57	0.39	4.64	4.39	1.92
LAGO LUCCHETTI	1.11	1.04	5.62	4.60	0.52
PORTUGUES-PONCE	2.54	1.58	5.07	2.53	0.31
BRIO CONSEJO/ADJNTS	1.48	0.38	4.31	3.88	1.97
ADJUNTAS 5WNW/AG STN	1.96	-	5.17	4.23	0.19
TOA VACA ABV L T V	0.67	2.00	5.74	2.98	0.16
BLANCO NR FLORIDA	2.14	1.36	4.33	1.82	1.52
YAUCO 1NNE, PR	1.53	1.04	3.50	3.96	1.14
GURABO BL EL MANGO	0.31	2.57	4.87	1.87	1.41
BRIO COLLORES/JYUYA	1.20	0.41	5.38	3.85	0.06
RIO SALIENTE@COABEY	1.41	0.99	5.04	3.42	0.04
LAGO TOA VACA,	0.47	2.54	5.65	2.10	0.07
L ANA MARIA/COTO LRL	0.97	2.06	4.99	2.57	0.17
L PRIETO/ADJNTAS 10W	2.04	0.28	3.49	4.35	0.47
YAUCO 1NNE/RIO YAUCO	1.14	1.27	4.04	3.00	1.01
LAGO ICACOS DAMSITE	0.00	-	5.51	3.14	1.72
CMP SANTIAGO/SALINAS	0.61	2.41	5.14	1.77	0.38
BOCA GRNDE NR JAYUYA	1.06	0.45	4.83	3.89	0.05
R JACAGUAS@JUAN DIAZ	1.67	2.33	4.31	1.74	0.21
LAGO CARITE@GATE TWR	0.27	1.46	5.96	1.80	0.63
JAUCA @ PASO PALMA	0.96	0.28	4.03	4.00	0.85
RIO LA PLATA-BARRANQ	0.75	0.94	2.95	5.04	0.35

As a result, flooding was widespread across Puerto Rico with some municipalities also reporting mud slides. All varieties of flooding were common ... from urban and poor drainage to flash flooding to river flooding at many of the NWS forecast locations. Flooding was reported at nine (9) of Puerto Rico's thirteen (13) NWS forecast locations. A total of 31 locations across Puerto Rico (over 60 locations with defined Flood Stages) exceeded Flood Stage. Most of the flooding was minor to moderate (27 points) with 4 locations indicating major flooding.

The Ponce and Adjuntas (southern PR) area recorded the highest 24 hour rainfall amounts of over 11 inches which was determined to be on the order of a 10 year rainfall return rate.

While many of the smaller, "flashy" basins in the Ponce area (area with highest rainfall totals) including ... but not limited to ... the Rio Cerrillos (major flooding ... 10.62ft), Rio Inabon (major flooding) and Rio Jacaguas experienced moderate to major flooding, minor to major was also reported along the larger basins of the Rio de la Plata, Rio Grande de Manati, Rio Guanajibo and Rio de Anasco. Of these larger basins, the Rio de la Plata at Toa Alta (major flooding influenced by dam operations) and the Rio Grande de Manati at Manati along the north coast of the island rose into the moderate / major flood categories.

Gaged sites that exceeded 15 feet crests were; **Rio de La Plata** at Comerio ... 17.59 ft, at Proyecto La Plata ... 17.25 ft, at Toa Alta ... 21.33 ft, **Rio de Anasco** at Guacio ... 18.13 ft, **Rio Caonillas** at Paso Palma ... 19.07 ft, **Rio Grande de Loiza** at HWY 183 ... 16.53 ft, blw Dam ...

23.04 ft, **Rio Gurabo** at Gurabo ... 19.04 ft, **Rio Grande de Manati** at Manati ... 33.17 ft, **Rio Guayanilla** at Guayanilla ... 15.50 ft, **Rio Inabon** at Real Abajo ... 19.05 ft, **Rio Jacaguas** at Juana Diaz ... 19.24 ft and **Rio Cibuco** at Vega Baja ... 15.00 ft.

*(See table at bottom for details)

The Governor of Puerto Rico declared seventeen municipalities under State of Emergency. The initial declaration was for Lares and Juana Diaz, but was later expanded to include Salinas, Santa Isabel, Ponce, Yauco, Peñuelas, Utuado, Jayuya, and Toa Baja. A later update included the municipalities of Humacao, Maricao, Aibonito, Moca, Yabucoa, Villalba, and the Street number 9 of the Santa Catalina sector in Bayamon.

Flood effects on the population of southern and interior Puerto Rico were significant. Four homes in the La Atomica area of Juana Diaz were washed away by River Rio Guayo. About 102 persons and 38 families in the southern municipalities of Puerto Rico were evacuated to shelters.

Numerous landslides occurred in the interior sectors, especially in the municipality of Lares, which was the worst affected. Several homes were declared unsafe for living due to terrain failures induced by rainfall and other considerations. There was one indirect death as a 21 year old male attempted to swim across a swollen river in Coamo while playing a game with friends.

Heavy damage was sustained by the Agricultural sectors of the island. The Puerto Rico Farm Bureau estimated losses at 20 million. Vegetables farmers lost 7 million in crops and infrastructure; coffee crops and paths 5 million; plantains, bananas, and watering systems 3 million; milk and loss of production 2 million, cattle and respective infrastructure 2 million, feed and chicken farms and citrus product losses 1.5 million.

Although the main damages were flooding related, there were also damages caused by winds gusts associated with thunderstorms.

Department of Transportation and Public Works estimated damages to roads in Lares due to landslides at 1.5 to 2.0 million.

** Damages reports were based on local daily newspapers reports.

Table 1 ... Summary of River Crests for Flood Event

RIVER AND STATION	FLOOD STAGE (FEET)	ABOVE FLOOD STAGE		CREST*		
		From ... To	*Flood Category	STAGE (FEET)	DATE	TIME (UTC)
RIO QUEBRADA GUABA NR NAGUABO (NGHP4)						
10/11 02:45		10.0	10/11	*minor	10.31	
RIO CERRILLOS ABV LAGO CERRILLOS (PCEP4)						
10/11 06:50		6.0	10/11 - 10/13	*major	10.62	
RIO CULEBRINAS AT MARGARITA DAM (MODP4)						
10/09 03:00		14.0	10/09	*minor	14.25	
10/11 16:00		14.0	10/11	*minor	14.01	

**RIO DE LA PLATA AT COMERIO (COMP4)				
	11.0	10/11 - 10/12	*moderate	17.59
10/11 06:30				
 RIO DE LA PLATA AT PROYECTO LA PLATA (AIBP4)				
	14.0	10/11	*minor	17.25
10/11 06:10				
 RIO DE LA PLATA - BLW LA PLATA DAM (NASP4)				
	16.0	10/11 - 10/12	*minor	21.04
10/11 07:25				
 **RIO DE LA PLATA AT HWY 2 TOA ALTA (TOAP4)				
	16.0	10/11 - 10/12	*moderate/major	21.33
10/11 11:00				
 RIO DESCALABRADO nr LOS LLANOS (DESP4)				
	10.0	10/13	*minor	10.55
10/13 11:45				
 RIO GRANDE DE ANASCO at BO. GUACIO (ANBP4)				
	14.0	10/11 - 10/12	*minor/moderate	18.13
10/11 05:45				
 **RIO GRANDE DE ANASCO at SAN SEBASTIAN (SEBP4)				
	11.0	10/11 - 10/12	*moderate	14.79
10/11 06:55				
 **RIO GRANDE DE ARECIBO NR SAN PEDRO (AREP4)				
	11.0	10/14	*minor	11.62
10/14 04:15				
 RIO GRANDE DE ARECIBO ABV UTUADO, (UTUP4)				
	10.0	10/11 - 10/13	*minor	10.94
10/11 15:00				
 RIO GRANDE DE ARECIBO ... ADJUNTAS at HWY 135 (ADKP4)				
	12.0	10/11 - 10/13	*minor	13.71
10/11 01:30				
 RIO GR DE AREC.- BL UTUADO (UTXP4)				
	14.0	10/11	*minor	14.73
10/11 03:20				
 RIO CAONILLAS at PASO PALMA (JAXP4)				
	16.0	10/11	*minor/moderate	19.07
10/11 07:45				

RIO SALIENTE at COABEY nr JAYUYA (JAYP4)

11.0	10/11	*minor	11.17
10/11 07:00			

RIO GRANDE DE LOIZA ...**RIO GRANDE DE LOIZA AT HWY 183(SLNP4)**

14.0	10/11	*minor	16.53
10/11 17:15			

RIO GRANDE DE LOIZA - BLW DAM(TRUP4)

22.0	10/11	*minor	23.04
10/11 19:30			

RIO CANOVANAS nr CAMPO RICO (CNAP4)

10.0	10/10	*minor	10.50
10/10 14:05			

****RIO GURABO at GURABO (GURP4)**

18.0	10/10	*minor	19.04
10/10 16:45			

****RIO GRANDE DE MANATI at MANATI (MANP4)**

25.0	10/11 - 10/13	*moderate/major	33.17
10/11 12:00			

****RIO GRANDE DE MANATI AT CIALES (CIAP4)**

10.0	10/11	*moderate	12.47
10/11 05:50			

****RIO GUANAJIBO at HORMIGUEROS (HORP4)**

20.0	10/11 - 10/15	*moderate	22.77
10/12 11:50			

RIO GUAYANILLA at GUAYANILLA (GYAP4)

12.0	10/11 - 10/13	*moderate	15.50
10/11 04:45			

RIO INABON AT REAL ABAJO (IANP4)

10.0	10/11	*moderate/major	19.05
10/11 02:45			

RIO JACAGUAS AT JUANA DIAZ (JUAP4)

14.0	10/11	*minor/moderate	19.24
10/11 16:00			

RIO LOCO ... LAJAS IRRIGATION CANAL

YAUCO - BLW DAM (LOEP4)

10/10 07:15 7.0 10/10 *minor 8.69

RIO MAMEYES AT MAMEYES (MSEP4)

10/12 13:30 11.0 10/12 *minor 12.07

****RIO CIBUCO AT VEGA BAJA (VGBP4)**

10/11 10:55 15.0 10/11 *minor 15.00

RIO TOA VACA ABV LAGO TOA VACA (TOVP4)

10/11 03:15 8.0 10/11 *minor 9.40

RIO MAJADA AT LA PLENA (SAMP4)

10/11 04:55 10.0 10/11 *minor 11.46

** - NWS Forecast Point

Highest Rainfall Accumulations from October 4th – 14th, 2005

ADSP4	Adjuntas	24.92
PRTP4	Ponce	23.58
VINP4	Villalba	19.66

Non-Routine Hydrologic Products Issued:	Number of Products for the month
Hydrologic Outlooks (SJUESFSJU)	1
Flood Watches (SJUFFASJU)	14
Flood Warnings (SJUFLWSJU)	13
Flash Flood Warnings (SJUFFWSJU)	52
Urban/Small Stream Flood Advisories (SJUFLSSJU)	54